



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

On the Cranial Characteristics of *GADUS PROXIMUS* Grd.

BY THEODORE GILL.

While engaged in the investigation of the comparative anatomy of the Gadoids and allied families, my attention was arrested by the very distinctive characters exhibited by the Californian Gadoid named by Girard *Gadus proximus* or *Morrhua proxima*. The title of that form to generic separation from the typical *Gadi*, is fully confirmed. I may remark, that I had long distrusted its pertinence to *Gadus* on account of its small size, but the few and trivial outward peculiarities exhibited by it, almost forbade a separation, until more should be known concerning its organization.

The affinities of the new genus are, perhaps, rather with *Brachygadus* than *Gadus* itself; but the form of the head sufficiently distinguishes it from that type. The distinctive external characters are the angular form of the fins, especially of the first dorsal, the small size and the immaculate body. All the osteological characters, herewith given, are contrasted with those of *Gadus*, and the peculiarities are indicated by the italicized portions.

If, as I suspect, the *Gadus pygmaeus* of Pallas belongs to *Boreogadus*, as restricted by myself, at least three genera of *Gadiniæ* are represented along the western American coast.

MICROGADUS Gill.

The cranium is proportionally broader towards the front and less flattened, while the brain case is flattened below, *decidedly swollen* laterally and on each side of a depressed *sphenoidal groove*, and has an ovate cordiform shape. The *paroccipital* or *epiotic* is not produced into an angle behind, but is *obtusely rounded*, and its posterior or *outwardly descending ridge blunt*. The *petrosal* or *opisthotic* is well developed, oblong, and with its re-entering angle *high up*, and, on a line with it, the surface is divided into two parts; an *upper narrow* and flattened one, and a lower expanded one, much swollen; the *alisphenoid* or *pro-otic* is *oblong*, acutely emarginated in front, swollen from the region of the high anterior sinus, and above it little produced forwards. The great *frontal* is little longer than broad, with supraoccipital crest continued only along its posterior *third*, but an anterior low crest *continued forwards* on the bone, and near the front expanded upwards, and with the *expanded portion* behind dividing into narrow *lateral wings*; the lateral tectiform ridges of the frontal are continued forwards and *curved outwards* towards the antero-lateral angles. The anterior frontals are *mostly covered in front* by the great frontal, and are much *developed* in the direction of the *antero-lateral angles*; the inferior expanded axillar portion being very narrow. The nasal has a rounded ridge in front continued well below, and its posterior crest is *laminar and trenchant*.

The rest of the bones offer less decided peculiarities, and, therefore, their immediate consideration is less requisite.

Gadus tomcodus Mitchell exhibits similar modifications of the cranium, and should be approximated to *G. proximus*.

Note on several Genera of CYPRINOIDS.

BY THEODORE GILL.

As considerable misapprehension appears to have prevailed regarding several genera of Cyprinoids, established for forms characteristic of the Pacific slope of North America by Girard, due, perhaps, to the vague or erroneous ideas entertained by that gentleman himself, it may be advisable to give the partial results of a renewed examination.

1865.]